

APPENDIX C. HOW BICYCLE FACILITIES CAN BE ACHIEVED

In Chapter III, the plan describes various types of facilities that are recommended to make up a network of bicycle accommodations. In Chapter IV, the plan discusses how these facilities will be implemented.

While the facility recommendations made in this plan are preliminary, the analysis undertaken during the planning process was detailed enough to also develop recommendations for how to achieve each bicycle facility. This recommendation is based upon review of the existing street characteristics for each particular segment.

In this appendix, the term *Action* is used to describe the type of roadway/physical improvement that is required to achieve the recommended bicycle facility or accommodation.

The table on page 61 of this appendix provides a statistical summary indicating how many miles of each action will be required to implement the entire network. Following is a description of each recommended action. Map E¹ indicates the location of each segment where the actions are applicable.

ACTIONS

Add Striping and/or Marking

This action is applied to street segments where bike lane striping or sharrows marking can be added to the existing pavement. Generally, existing striping will not need to be adjusted. At the time field work was conducted for this plan (Fall 2009) a windshield survey of the pavement quality suggested that resurfacing would not be required prior to adding bicycle facilities. However, DOTE may establish standards subsequent to adoption of this plan which may result in some network segments in this category requiring resurfacing first. Another factor that may affect the need to resurface prior to adding striping and/or markings is the degree to which the pavement ages between the initial evaluation and the timing of actual facility implementation.

Grind Markings

This action means that some existing lane lines, the centerline, or other street markings need to be removed prior to installing bike lanes or sharrows. Generally, restriping will result in the same allocation of space for motor vehicle travel, but it will be distributed differently across the width of the pavement. In some cases, there may be a slight reduction in motor vehicle lane widths.

Allow Full Time Parking on One Side or Both Sides

This action calls for lifting peak hour parking restrictions on one or both sides of the street and allowing parking at all times of day. Typically, this recommendation is made to facilitate installation of sharrows. In many cases where this action is recommended, the street segment serves a neighborhood retail/commercial district, and full-time parking is expected to be a benefit for local businesses.

¹ Map E is available on the DOTE Bicycle Program website.

Lane Diet

This action typically occurs on 4, 5 or 6 lanes arterials, where a bicycle facility can be added to the street by reallocating space. Typically, some or all existing travel lanes are narrowed by 0.5 to 2 feet. For example, a 6 lane arterial with 12.5-foot travel lanes can be restriped with 5-foot bike lanes in each direction by narrowing to one 11-foot travel lane and two 10.5-foot travel lanes in each direction. This can be accomplished by grinding off the existing lane lines and restriping the street according to the new layout, or by resurfacing the roadway and then applying the new striping plan.

Recommended Street Improvement Actions to Implement the Bicycle Network				
	Miles			
Recommended Actions	Phase I	Phase II	Phase III	Grand Total
No Action Required	5.4	21.4	18.9	45.7
Add Striping/Marking	22.1	36.8	33.2	92.1
Grind Markings	8.3	4.4	6.0	18.7
Allow Full Time Parking One Side	0.6	3.1	0.0	3.7
Allow Full Time Parking Both Sides	3.3	2.0	1.2	6.4
Lane Diet	6.4	7.6	12.8	26.8
Resurface, Stripe & Mark	3.7	7.5	9.6	20.8
Remove Parking One Side	11.4	17.0	6.9	35.3
Road Diet	20.1	3.4	14.5	38.1
Remove Parking Both Sides	0.5	0.9	0.0	1.4
Add Bikeway with Road Reconstruction	1.3	2.6	0.3	4.3
Construct New	0.7	5.0	1.0	6.7
Under Study	4.0	0.9	0.0	4.9
Further Study	3.2	3.3	17.9	24.4
GRAND TOTAL:	91.0	116.0	122.3	329.3

Recommended Off-Road Improvement Actions to Implement the Bicycle Network				
	Miles			
Recommended Actions	Phase I	Phase II	Phase III	Grand Total
Clean/Repair/Sign Sidewalks	5.2	2.4	0.3	7.9
Construct New	6.3	14.2	32.8	53.3
Resurface Path	0.3	0.0	0.0	0.3
Other Connector Path Improvements	0.6	0.6	1.1	2.3
Trail Construction Timing Unknown			19.0	19.0
GRAND TOTAL:	12.4	17.2	53.2	82.8

Resurface, Stripe and Mark

This action means that conditions for bicycling can be improved primarily by resurfacing the street. In some cases this is all that is needed. In others, resurfacing may be recommended to provide a smoother surface for application of bike lane lines and symbols or sharrows.

Road Diet (reduction of the number of travel lanes)

A *road diet* creates the space needed for bicycle lanes by eliminating one or more travel lanes. One example is the conversion of a four-lane roadway into a two-lane road with a center turn lane and bicycle lanes in each direction. The center turn lane accommodates left-turn movements without holding up through traffic. In many cases, *road diets* have actually improved through traffic flow and safety, in addition to providing bicycle accommodations.

Remove Parking One Side / Consolidate Parking on One Side

Approximately 35 miles of the entire recommended network, will require a reduction in available on-street parking. For this action, it is recommended that parking be prohibited on one side of the street and allowed on the other. This is only recommended where residential densities and/or the presence of driveways suggests that parking on one side will be sufficient to meet residential needs. Prior to implementing a facility by reducing on-street parking, it is recommended that a parking needs assessment be conducted and that the community to be affected be consulted.

Remove Parking Both Sides

This action has been reserved for only a few locations where better options are not available. Recognizing that residential and commercial parking is important for the health of local businesses and neighborhoods, it is recommended that further study of parking needs be conducted prior to implementation of facilities that would require elimination of all on-street parking.

Construct New

This action describes what is needed in locations where no bicycle facility now exists, and a new bicycle facility will require significant construction, such as grading and paving shoulders to add bike lanes to a two lane road, widening a sidewalk to make it safe and appropriate for limited bicycle access, or building a new paved trail in a park or open area adjacent to a roadway.

Reconstruct Existing Bike Facility

This action is needed for existing bicycle facilities that are substandard and need to be upgraded or widened, or for on-street facilities that have deteriorated beyond repair.

Add Bikeway with Road Reconstruction

This action is assigned to street segments where roads will need to be widened, or curb lines moved in order to gain space for either, an on-street bike lane, cycle tracks, or a shared use path on the side of the roadway.

Under Study by City

This action is assigned to street segments that were already under study or “in-design” for improvements while this plan was being developed.

Further Study Recommended

This action is assigned to streets where it was not readily apparent how bicycle facilities could be added to the roadway. Typically, a preliminary facility has not been recommended, and thus the action to achieve it cannot be determined. In some cases a

preliminary facility is recommended as a “target” or goal around which the study can be focused.

Clean/Repair/Sign Sidewalk

This action is assigned to sidewalks that are recommended for one way bicycling in the uphill direction, as a near-term improvement for streets where on-street facilities may be more difficult to achieve. The improvements needed to create these facilities include clearing the sidewalk of debris, fixing broken section of the concrete or places where heaving has made the surface dangerously uneven, and designating the route with a sign that permits bicyclists and specifies both the operational regulations and etiquette needed for maintaining bicyclist and pedestrian safety.